

REMARKS

Claim 13 has been amended to make minor grammatical corrections without any change of scope or intended meaning. Claims 13-19 are presented for further examination.

The statement in the Office Action that claims 13-19 are rejected under 35 U.S.C. 102(b) as anticipated by Fenty, US 5,277,301 is noted, but is believed to be a clerical error inasmuch as the Office Action expressly acknowledges that Fenty does not disclose all of the features of the independent claim 13. For the reasons set forth in the following discussion of the obviousness rejection, the claimed invention is respectfully submitted to be patentable over Fenty.

The rejection of claims 13-19 under 35 U.S.C. 103(a) over Fenty, US 5,277,301 in view of Lago, US 5,228,557 and Killen, US 3,783,777 is respectfully traversed.

The Office Action's interpretation of components or parts of the Fenty apparatus as corresponding to those of the present invention is in error. In making a comparison of elements of claim 13 to Fenty, the Office Action (at pg. 2) incorrectly recites that:

"Fenty teaches a transfer conveyer, a plurality of transfer pieces (58, 60) each comprising a pair of erect flat spacer members (62) connected to both end sides of connection members..."

Parts 58 and 60 in Fenty are inner and outer side links, respectively. See, Fenty's Fig. 3. They do not correspond to the "transfer pieces" of the present application (identified as part 01 in the application's Fig. 1, and in the Specification at, e.g., pg. 23, lines 5-6).

Part 62 of Fenty is a connecting rod, and not erect flat spacer members. See, Fenty's Fig. 3, and col. 3, lines 51-52. Part 62 does not correspond to the claimed erect flat spacer members. See, part or element #1 in Fig. 1 of the application, and application pg. 23 last paragraph, re spacer member 1 being connected to both sides of a connection member 2 composing a transfer piece 01.

If there is a correspondence, the closest would be the invention's transfer piece 01 having spacer members 1 connected by a connecting member 2, as

compared to Fenty's use of inner and outer side links 58, 60 attached on both ends of a connecting rod 62.

Fenty shows a self-supporting conveyer where the major portion of the weight of the helical stack is supported by a circular track 90 on a lazy-susan type of rotatable turntable (Fig. 1), with the belt made up of the inner and outer side links connected by rods 62. The conveyer is driven by teeth of a wheel engaging in recesses formed between outer side links (see, Fenty's Fig. 9). The Office Action acknowledges that Fenty does not teach use of an inside chain and features claimed related to the invention's multiple chain drive system (Office Action, pg. 2 last line to pg. 3), but asserts that all these features are taught in Lago.

Lago describes a chain conveyer that uses two link chains in which annular elements of one chain are connected to annular elements of the other chain by cross bars (Lago, col. 1, lines 6-11).

Lago shows the use of two belt drive units (elements 16 in Fig. 2; col. 3, lines 54-56). Cross bars 20 connect links of one chain 18 to corresponding links of the other chain 19 (Figs. 3, 6; col. 3, lines 57-64). In the description, each chain requires its own gear motor 25 (col. 4, lines 1-4). Each gear 36, 37 of the respective gear motors is rotatably connected to a respective toothed wheel 39 for driving the conveyer belt (col. 4, lines 15-20). Lago's arrangement of each driving wheel 39 being parallel to the plane of the belt is a central design feature of its invention. (Benefits thereof, e.g., discussed at col. 3, lines 27 *et seq.*)

Specifically, Lago's *horizontally* toothed driving wheel 39 engages on the inner side of the chain (col. 5, lines 13-14; and Figs. 3, 6). The cross-bar 20 is welded to the horizontal links 18b of chain 18 (col. 5, lines 56-58; also Figs. 6 and 9-11). There are no spacer members in Lago, so claim 13's requirement of the spacer members "riding on" chains cannot be met by Lago. In fact, Lago suggests that the ends 20a of rod 20 could be bent up and tiltable fins 41 added to provide the lateral protection walls (Lago, Fig. 10) that are otherwise missing in Lago.

In conflict with these features of Lago is the structure used in Fenty where there are outer side links, and ones designed to engage with the teeth on a *vertically* positioned wheel to provide the drive for the conveyer. Furthermore, Fenty requires use of a horizontal slot in the side links to allow for the rod 62 to slide in order to maneuver between straight and curved conveyer sections (Fenty, col. 4, lines 3-8) (opposite to the secured welding in Lago).

Thus these fundamentally different designs do not allow Lago and Fenty to be combined, and even doing so would not produce the inside and outside chain arrangement and drive as defined in claim 13, which in part claims:

“...an inside chain to allow one of the pair of the spacer members riding on the inside chain to move together with the inside chain and an outside chain to allow the other of the pair of the spacer members riding on the outside chain to move together with the outside chain...”

Also, and further different from that taught in Lago, the present invention claims each spacer member as having a contact face, and the contact face of the spacer member rides on a chain, with a single motor driving both the inside and outside chains. This feature advantageously restrains lateral movement in directions perpendicular to the transfer direction, thus allowing for a vertical spiral pile of the transfer conveyer by use of transfer pieces according to the invention to maintain good stability. Claim 13 requires the “contact face to ride on the chain”, which beneficially prevents the connecting members constituting the transfer passage from contacting the driving components (the drive is applied by contact with the spacer members), with the resulting benefit of a more sanitary transfer of foodstuff (opposite in Lago where Fig. 10 shows that the drive device with guides 21, 22 around chains 18, 19 makes contact with cross bars 20 in the transfer passage area where foodstuff is being transferred). Since Lago uses no spacer members, it also fails to disclose the “contact face” of each spacer member as contacting and riding on the chain, as per claim 13.

In addition, the feature of claim 13 whereby the rotation speed of the inside sprocket is slower than the rotation speed of the outside sprocket cannot be met in Lago due to the welding of the connecting rod to the chains. Hence

only one drive unit can be used to drive only the outer chain on a curved path (illustrated in Lago's Fig. 7) in which case the inside chain is moved along by the welded cross-bar connecting the chains. Differently along a straight section, two drive units can be used (illustrated in Lago's Fig. 8) without causing stress to the welded joints because by being straight, both sides can move together. In neither case, however, are there spacer members "connected to each other" "riding on" inside and outside chains as per claim 13. Furthermore, the Lago system does not show (and could not operate given its use of rods fixedly welded to chains) an inside sprocket with a rotation speed slower than that of an outside sprocket", as claim 13 requires.

Still another feature of claim 13 is neither taught nor suggested by Lago, and that is the requirement that one of the spacer members rides on the inside chain and another spacer member rides on the outside chain, whereby the two move together by a single motor via a drive shaft. Lago discloses only chains as supporting connecting rods, without any spacer member component and without a contact face component.

Lago further does not teach the use of inside and outside sprockets, "wherein said inside chain and outside chain are looped respectively over an inside sprocket and an outside sprocket by said single motor via the drive shaft," as required in claim 13. Instead, Lago's drive system uses toothed entrainment wheels, parallel to the belt, in an intermediate position between the lateral chains of the belt itself (col. 6, lines 53-56). Lago does not disclose two chains "looped over" two sprockets where the two sprockets are driven by a single motor via a drive shaft.

Thus for each and all of these several reasons, the structure of Lago is distinguishable from the features of claim 13 for which it was applied.

The Office Action further acknowledges that neither Fenty nor Lago disclose the "speed change gear drive and its arrangement as required in claim 13, which specifically requires:

"a speed change gear drive...mounted in the drive shaft extending between the inside sprocket and outside sprocket to reduce the rota-

tion speed of the inside sprocket to be slower than the rotation speed of the outside sprocket.”

However, the Office Action asserts that a speed change gear drive, and in its arrangement as defined with respect to other components in claim 13, is disclosed in the patent to Killen *et al.* Applicant respectfully disagrees.

Killen is directed to a vertical bottle conveyor machine by which printing can be applied to the sides of round articles, such as bottles. A “squeegee” picks up color paints and delivers color to a screen that strikes the color printing onto a bottle. Bottles are rolled on the screens in the printing process, and “change gears are provided to obtain for any bottle diameters equal linear speeds on opposite sides of each screen of striking squeegees and of substantially rolling bottles.” (Abstract, Killen.) So it is apparent at the outset that, generally, mechanism is described in Killen designed to implement the axial rotation of the bottles (e.g., at col. 18, lines 35-37; Fig. 52; col. 17, lines 38-55) as they proceed along a conveyer, and to accomplish the printing of bottles of various sizes and shapes in multicolors (col. 19, lines 24-25) in the process. In this respect, this is non-related art and in designing a conveyer for foodstuffs into and out of a temperature controlled area, one would not be motivated to look into the art for moving and rotating bottles on their axis so as to automate the printing of information in colors onto the bottles. Notwithstanding this lack of motivation to combine, Killen fails to disclose the one feature of claim 13 for which it is cited.

In the Office Action, Killen at col. 4, lines 3-10 is specifically relied on for showing this speed change gear drive as in claim 13 of (Office Action, pg. 3, middle). This segment from Killen reads as follows:

“Keyed to countershaft 61 is a gear 83 which meshes with gear 85 clustered with a double sprocket 87. The cluster 85, 87 rotates around live shaft 11 on bearings 89. Double sprocket 87 drives the outside reaches of a triple bottle-turning chain 91 extending to a double idler sprocket 93 carried on bearings 95 on dead shaft 17. Chain 91 is driven by the train of parts 69, 71, 73, 75, 61, 83, 85, 87 extending from shaft 11 of conveyer 1.”

Careful consideration of this text with reference to Fig. 2 of Killen reveals that Fig. 2 shows a “live shaft 11” that rotates clockwise and a “counter shaft 61” that rotates counterclockwise. The two different shafts are connected at the top (in the vertical section view of Fig. 2) by a change gear train made up of components 69, 71, 73 and 75. Gear 83 meshes with gear 85 that rotates around live shaft 11 to drive triple bottle turning chain 91.

There is no gear drive “mounted in” one drive shaft in Killen, as defined in claim 13, but rather, the gear train shown in Killen operates to connect two different shafts. Killen also does not show a gear drive positioned between inside and outside sprockets. While there are sprockets in the machinery of Killen, none is described, nor is equivalent to, an “inside” and an “outside” sprocket as per the terms in claim 13. As Applicant pointed out in its earlier Reply filed Jan 25, 2007, if Killen is viewed as having an inside sprocket 85 and an outside sprocket 87, then the speed change gear in Killen is not “mounted in the drive shaft extending between the inside sprocket and outside sprocket to reduce the rotation speed of the inside sprocket to be slower than the rotation speed of the outside sprocket,” as is required in claim 13. While the claimed invention has a speed change gear drive mounted in the drive shaft, the “change gear train” of Killen is external to two separate drive shafts (live shaft 11 and counter shaft 61 in Fig. 2). It is, therefore, mounted outside of and not “in” either shaft 11 or 61; and is in-between two separate drive shafts.

Furthermore, the “change gear train” described in Killen can not be combined with either of the other two references in any meaningful way so as to arrive at the invention of claim 13. Lago shows welded crossbars, so you cannot use a speed changer to move two chains, connected together by a welded crossbar, at two different speeds, and one would not use the arrangement of Killen’s Fig. 2 to implement such a speed changer in the type of foodstuff conveyer of the present invention because it does not relate to the basic structure being claimed of a drive shaft connecting two sprockets where a speed change gear drive is mounted in that drive shaft. Therefore, in addition to the structure

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differences as discussed, one would not be motivated to combine the "apparatus for printing round articles" of Killen (claim 1) with the foodstuff transfer system of the present invention because of the sharply different objects of the Killen patent, and its combination, assuming *arguendo* it were possible, would still not produce the invention as claimed.

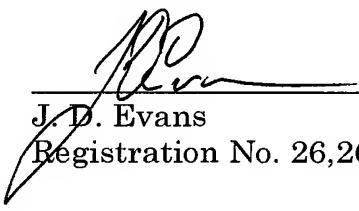
It follows that even when Fenty, Lago and Killen are considered in combination with each other, they fail to disclose or suggest any apparatus corresponding to the presently claimed invention. Reconsideration and withdrawal of the obviousness rejection are accordingly respectfully requested.

In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance, and prompt, favorable action thereon is earnestly solicited.

If there are any questions regarding this response or the application in general, a telephone call to the undersigned attorney at (202) 624-2845 would be appreciated since this should expedite the examination process.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 037297.55537US).

Respectfully submitted,



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